**Amendments to the Claims**

1-15.    (Canceled)

16.    (Currently Amended)  A computer-implemented method of creating a virtual traffic network representing traffic conditions on a road system, the method comprising:

(a) inputting into a processor <u>a base layer comprising</u> map data representing a road system, the road system being defined by a plurality of links <u>and nodes</u>;

(b) ~~inputting into~~ the processor ~~flow data related to traffic flow on the road system~~ <u>creating a traffic layer by combining multiple links and nodes of the base layer into a single link with an upstream node and a downstream node</u>;

(c) inputting into the processor <u>flow data related to traffic flow on the road system and</u> information about traffic events <u>on the road system</u> ~~obtained from different sources than sources of the flow data, including information that correlates the traffic events to specific links on the road system, wherein the traffic events are occurrences on the road system which may have an impact on the flow of traffic, and the traffic event information is inputted into the processor separately from the flow data~~; and

(d) the processor integrating ~~the map data~~ <u>the base layer, the traffic layer</u>, the flow data and the traffic event information to produce a virtual traffic network representing traffic conditions on the road system, wherein the virtual traffic network indicates both the flow data and the traffic event information~~, the traffic event information being integrated by using the specific links on the road system that the traffic events are correlated to~~.

17.    (Original)  The method of claim 16 wherein the flow data is real-time flow data, the virtual traffic network representing real-time traffic conditions on the road system.

18.     (Original)  The method of claim 16 wherein the flow data is input from a plurality of road sensors.

19.     (Original)  The method of claim 16 wherein step (a) further comprises customizing the map data to define locally known features of the road system.

20.     (Previously Presented)  The method of claim 16 wherein one of the traffic events are incidents and the information includes information related to incidents on the road system.

21.     (Previously Presented)  The method of claim 16 wherein the map data, the flow data and the information have a synaptic relationship with each other.

22.     (Original)  The method of claim 16 wherein the virtual traffic network is spatially oriented.

23-80.  (Canceled)

81.     (Currently Amended)  An article of manufacture for creating a virtual traffic network representing traffic conditions on a road system, the article of manufacture comprising a computer-readable medium encoded with computer-executable instructions for performing a method comprising:

        (a) inputting into a processor <u>a base layer comprising</u> map data representing a road

system, the road system being defined by a plurality of links ~~and nodes~~;

(b) ~~inputting into~~ the processor ~~flow data related to traffic flow on the road system~~ <u>creating a traffic layer by combining multiple links and nodes of the base layer into a single link with an upstream node and a downstream node</u>;

(c) inputting into the processor <u>flow data related to traffic flow on the road system and</u> information about traffic events <u>on the road system</u> ~~obtained from different sources than sources of the flow data, including information that correlates the traffic events to specific of the links on the road system, wherein the traffic events are occurrences on the road system which may have an impact on the flow of traffic, and the traffic event information is inputted into the processor separately from the flow data~~; and

(d) the processor integrating ~~the map data~~ <u>the base layer, the traffic layer</u>, the flow data and the traffic event information to produce a virtual traffic network representing traffic conditions on the road system, wherein the virtual traffic network indicates both the flow data and the traffic event information~~, the traffic event information being integrated by using the specific links on the road system that the traffic events are correlated to~~.


82.    (Previously Presented)  The article of manufacture of claim 81 wherein the flow data is real-time flow data, the virtual traffic network representing real-time traffic conditions on the road system.


83.    (Previously Presented)  The article of manufacture of claim 81 wherein the flow data is input from a plurality of road sensors.

84.    (Previously Presented)  The article of manufacture of claim 81 wherein step (a) further comprises customizing the map data to define locally known features of the road system.

85.    (Previously Presented)  The article of manufacture of claim 81 wherein one of the traffic events are incidents and the information includes information related to incidents on the road system.

86.    (Previously Presented)  The article of manufacture of claim 81 wherein the map data, the flow data and the information have a synaptic relationship with each other.

87.    (Previously Presented)  The article of manufacture of claim 81 wherein the virtual traffic network is spatially oriented.

88.    (Currently Amended)  A computer-implemented apparatus for creating a virtual traffic network representing traffic conditions on a road system, the apparatus comprising:

   (a) means for inputting into a processor a base layer comprising map data representing a road system, the road system being defined by a plurality of links and nodes;

   (b) means for creating a traffic layer by combining multiple links and nodes of the base layer into a single link with an upstream node and a downstream node ~~inputting into the processor flow data related to traffic flow on the road system~~;

   (c) means for inputting into the processor flow data related to traffic flow on the road system and information about traffic events on the road system ~~obtained from different sources than sources of the flow data, including information that correlates the traffic events to specific~~

of the links on the road system, wherein the traffic events are occurrences on the road system which may have an impact on the flow of traffic, and the traffic event information is inputted into the processor separately from the flow data; and

(d) means for integrating the map data the base layer, the traffic layer, the flow data and the traffic event information to produce a virtual traffic network representing traffic conditions on the road system, wherein the virtual traffic network indicates both the flow data and the traffic event information, the traffic event information being integrated by using the specific links on the road system that the traffic events are correlated to.

89.    (Previously Presented)  The apparatus of claim 88 wherein the flow data is real-time flow data, the virtual traffic network representing real-time traffic conditions on the road system.

90.    (Previously Presented)  The apparatus of claim 88 wherein the flow data is input from a plurality of road sensors.

91.    (Currently Amended)  The apparatus of claim 88 wherein the means for inputting into a processor a base layer comprising map data representing a road system further comprises means for customizing the map data to define locally known features of the road system.

92.    (Previously Presented)  The apparatus of claim 88 wherein one of the traffic events are incidents and the information includes information related to incidents on the road system.

93.    (Previously Presented)  The apparatus of claim 88 wherein the map data, the flow data

and the information have a synaptic relationship with each other.

94.     (Previously Presented)  The apparatus of claim 88 wherein the virtual traffic network is spatially oriented.

95.     (Previously Presented)  The method of claim 16 wherein each link represents a distinct stretch of the road system between two nodes, each node being a decision point on the road system.

96.     (Previously Presented)  The method of claim 16 wherein each link represents a distinct stretch of the road system between two nodes, each node being where two or more roadways merge together.

97.     (Currently Amended)  The method of claim 16 wherein ~~step (e)~~ inputting information about traffic events on the road system is performed by a human operator.

98.     (Currently Amended)  The method of claim 16 further comprising:

(e) graphically displaying the virtual traffic network, including the map data, the flow data and the traffic event information, the graphical display showing at least one of an animated flow display using the flow data and an icon corresponding to the traffic event using the traffic event information ~~the traffic event information on a map representing the virtual traffic network, the traffic event information being integrated into the map by using the specific links on the road system that the traffic events are correlated to~~.

99.    (Previously Presented)  The article of manufacture of claim 81 wherein each link represents a distinct stretch of the road system between two nodes, each node being a decision point on the road system.

100.   (Previously Presented)  The article of manufacture of claim 81 wherein each link represents a distinct stretch of the road system between two nodes, each node being where two or more roadways merge together.

101.   (Currently Amended)  The article of manufacture of claim 81 wherein ~~step (c)~~ <u>inputting information about traffic events on the road system</u> is performed by a human operator inputting the traffic event information into a user interface display screen.

102.   (Currently Amended)  The article of manufacture of claim 81 wherein the computer-readable medium is encoded with computer-executable instructions for performing a method further comprising:

    (e) graphically displaying the virtual traffic network, including the map data, the flow data and the traffic event information, the graphical display showing <u>at least one of an animated flow display using</u> the flow data and <u>an icon corresponding to the traffic event using the traffic event information</u> ~~the traffic event information on a map representing the virtual traffic network, the traffic event information being integrated into the map by using the specific links on the road system that the traffic events are correlated to~~.

103.    (Previously Presented)  The apparatus of claim 88 wherein each link represents a distinct

stretch of the road system between two nodes, each node being a decision point on the road

system.


104.    (Previously Presented)  The apparatus of claim 88 wherein each link represents a distinct

stretch of the road system between two nodes, each node being where two or more roadways

merge together.


105.    (Currently Amended)  The apparatus of claim 88 wherein the means for inputting

information about traffic events is a user interface display screen that receives the traffic event

information from a human operator.


106.    (Currently Amended)  The apparatus of claim 88 further comprising:

        (e) means for graphically displaying the virtual traffic network, including the map data,

the flow data and the traffic event information, the graphical display showing at least one of an

animated flow display using the flow data and an icon corresponding to the traffic event using the

traffic event information the traffic event information on a map representing the virtual traffic

network, the traffic event information being integrated into the map by using the specific links on

the road system that the traffic events are correlated to.


107-109.    (Canceled)